

Human PLSCR1

```

1 cgagcgcagc cgcgggaacc gggaaaagga aaccgtgttg tgtacgtaag attcaggaaa
61 cgaaaccagg agccgcgggt gttggcgcaa aggttactcc cagacccttt tccggtgtgac
121 ttctgagaag gttgctgcagc agctgtgtccc gacagtctag aggcgcagaa gaggaagcca
181 tcgcttgccc ccggctctct ggacctgtgc tcgctcgga cgcgaaacag cggcagccag
241 agaactgttt taatcatgga caaacaacac tcacagatga atgcttctca cccggaaaaca
301 aacttgccag ttgggtatcc tcctcagtat ccacgcagag cattccaagg acctccagga
361 tatagtggct accctggggc ccaggtcagc taccaccccc caccagccgg ccattccagg
421 cctggccag ctggctttcc tgtcccaaat cagccagtggt ataatacagc agtatataat
481 cagccagttg gagctgcagg ggtaccatgg atgccagcgc cacagcctcc attaaactgt
541 ccacctggat tagaataatt aagtcagata gatcagatac tgattcatca gcaaattgaa
601 cttctggaag ttttaacagg ttttgaaact aataacaact atgaaattaa gaacagcttt
661 ggacagaggg tttactttgc agcggaagat actgattgct gtaccggaaa ttgctgtggg
721 ccactctagac cttttacctt gaggattatt gataatatgg gtcaagaagt cataactctg
781 gagagaccac taagatgtag cagctgttgt tgtccctgct gccttcagga gatagaaatc
841 caagctcttc ctggtgtacc aatagggtat gttattcaga ctggcaccct atgtctacca
901 aagtgtcaca ttcaaaatga gaaaagagag gatgtactaa aaataagtggt tccatgtgtt
961 gttgtgcagct gttgtggaga tgttgatttt gagattaaat ctctgtatga acagtgtgtg
1021 gttggcaaaa tttccaagca ctggactgga attttgagag aggcatttac agacgtgtat
1081 aactttggaa tcagtttccc tttagacctt gatgttaaaa tgaaagctgt aatgattggt
1141 gcctgttttc tcattgactt catgtttttt gaaagcactg gcagccagga acaaaaatca
1201 ggagctgtgt agtggattag tgaagtcttc ctcaagaaat ctgaagctgt tatattgatt
1261 gagactatct aaactcatac ctgtatgaat taagctgtaa gccctgtagc tctggtgtga
1321 tacttttgtt tttcaaata tagtttatct tctgtataac tgatttataa aggttttgtt
1381 acatttttta atactcattg tcaatttgag aaaaaggaca tatgagtttt tgcatttttt
1441 aatgaaactt ctttgaaaa actgctttga attatgatct ctgattcatt gtccattttt
1501 ctcaaaaata ttaactaagg cttatttaatt ttttataata attatacttt gtcctattaa
1561 atctagttac aatttatct atgcataaga gctaattgta ttttgaaat gccatataat
1621 caaaaaatgt caaagataat tttctttact attatgttca aataaatttc aatatgcata
1681 ttactcttaa aaagttaaat gtttttttaa tcttcaagaa atcatgctac acttaacttc
1741 tcctagaagc taactatac cataattatt tcatattcac aagatattaa attaccattt

```

```

1801 ttcaaaatat tgttagtaaa gaacaaaatg attctctccc aaagaagac acattttaaa
1861 tactccttca ctctaaaact ctggtattat aacttttgaa agttaatatt tctacatgaa
1921 atgttttagct ctacactctc atccttctca gaaaatggta attgagatta tccagatatt
1981 aattaaatca aatatcatat atattatcac agagtataaa cctaaataat gatctattag
2041 attcaaatat tgaataataa aacttgattt ttttgt

```

Predicted open reading frame:

```

MDKQNSQMNASHPETNLVPGYPPQYPPPTAFQCPGPGYSGYGPQVSYPPPPAGHSFGPGAG
FPVPNPQVYNQPVYNQPVGAAGVPWMPAPQPFPLNCPPGLEYLELSQIDQLILHQQIELLEVL
TGFETNNKYIINKSPGQVRYFAEDTDCCTRNCGGPSRPFILRIIDNMGEVITLERPLR
CSSCCCPCLQEIEIQAPPVPIGYVIQTHPCLPKFTIQNEKREDVLKISGCPVVCSC
GDVDFEIKSLDQCVVGIKSHWTGILREAFDADNFGIQFPLDLIDVKMKAVMIGACFLI
DFMFPESTGSQEQKSGVW

```

FIGURE 1

Human PLSCR2

```

1  ggccgaatgg agaatgaagc cttttcaaat tcacctccca gtgaaccacc ctcaaaatag
61  aagtgaatgt gaaaccacag atatttcatt aaaacatate tgaagataaa aacataacct
121 aagcttcaca gatattggac ttctgagctg agaggacctc ccggacatat tgtctacctt
181 aagcaccagg ctggacacac tgggaaaacag gctgaccacc tgggtcccca ggcttcttac
241 ccaggacgtc agcatgaacta cctagtccca cctgctggca cagctggcat tccgttcaaa
301 aatcagccag gtgagactga aggggtacca tggatgccag caccacacc accattaaac
361 tgtccgccag gatggaata cttaagtcag atagatatga tactaattca tcagcaaaat
421 gaactctcgg aagttctatt cagttttgaa agtagtaaca tgtatgaaat caagaacagc
481 tttgggcaga ggatttattt tgcagcagaa gatactaat tctgtatccg aaattgctgt
541 gggcggtcta gaccttttac cttgaggatt actgataatg tgggtcgaga agtcataact
601 ctggaaagac cactaaagat taactgttgt ttgtgcccc gctgccttca ggagatagaa
661 atccaaagctc ctccgttgtt accagtaggt tatgttactc agacctggca cccatgtcta
721 acaaagttta caattaaaaa tcagaaaaga gaggatgtac taaaaattag tggttccatgt
781 atcgtgtgca gctgtattgc ggggttgtgat tttagatta catctcttga tgaacaaatt
841 gtggttgcca ggatttctaa gcactggctc gggtttttaa gagaggcatt tactgatgct
901 gacaactttg gaatccaatt ccttagagac cttgatgtta aaatgaaagc cgtgatgatt
961 ggtgcctggt tcctcattga ctacatgttt tttagaaaga ctaggttaatg actggaatgt
1021 cagagtgtgg gagtggatta atgattccgg atccttggct aggcataaatg aaactataac
1081 tgatctaaac ggttccttcc ttcttctact gtgcaaggaa gatgtaagga aaaactcgca
1141 cactatctgt ggaactcatt taaattcaaa tcttagataa acatttcgca ttgaatattt
1201 acatggagaa aaatcatcaa acatcaacaa ttatcaagtt aattaataaa aatactaggt
1261 attgc

```

Predicted open reading frame:

```

MPAPPPLNCPGLEYLSQIDMILIHQQIIELEVLFSFESSNMYEIKNSFGORIYFAAED
TNFCIRNCCGRSRPFTLRITDNVGREVITLERPLRCNCCCCPCLQEIIBIAPPGVVPVGY
VTQTHFCLTKFTIKNQKREDVLKISGPCIVCSGIAGVDFEITSLDEQIVVGRISKHWSG
FLREAFTDADNFGTIQFPRDLVDKMKAVMIGACFLIDYMFPERTR

```

FIGURE 2

Human PLSCR3

```

1 cggggccggg gtcgagctc gggcccgct ccgctccgc cagctcctgt gagctgccga
61 gtgctaggca cccgggctct tctgggggct ccagaactaa gcccccaga caccatcatc
121 tcgaaaaacc cagcccttct cccatggcag gtaacttgcc ccccaaggc tacgcccttt
181 cgccccacc tccctaccct gtcacccctg ggtaccggga gccggcgcta catctggggc
241 ccggggcaggc gccagtcccc gccaggctac ctgccccagc tcccgcttc gccctctccc
301 cctcgctctg ccccgctggc ttggggctctg ctgccccctt ctgtccactg ccagggggtgc
361 cttctggcct cgaattcctg gtgcagattg atcagatttt gattcaccag aaggctgagc
421 gagtggaaac gtctctaggc tgggagacct gtaatcggtg tgaactgcgc tctggggccg
481 ggagccctct gggtcaggcg gccaggaga gcaactgctg cgcccgctcg tgcgtggcg
541 ccgcccggcc gctcgtgtgc cgcctggcgg accccgggga ccgtgaggtg ctgcgtttgc
601 tcgcccgcgt gcactgtggc tgcagctgct gccctgtgg cctccaggag atggaagtac
661 aggtccacc aggccaccac attggccacg tgctacagac ctggcatccc ttctcccca
721 agttctccat ccaggatgcc gatcccgaga cagtcttgcg agtggtgggg cctgctgga
781 cctgtggctg tggcacagac accaactttg aggtgaagac tcgggatgaa tcccgcagtg
841 tgggcgcgat cagcaagcag tgggggggcc tggccgaga agccctcaca gatgcagatg
901 actttggcct acagtctccg ctggacctgg atgtgagggg gaaggctgtg ctgctgggag
961 ccacattcct cattgactac atgttctttg agaagcgagg aggcgtggg cctctgccca
1021 tcaccagtta gaggccacca tgggtgtagg agaccatcac ctgcaccaga actccagatg
1081 gtccactctg cttggccctc ctctgggcag ccccttctct ccattgtacac tgcaggggac
1141 agaagggggg ccccatccct accctactcc ctggcccgct gccctgtggt ttcccaagga
1201 ggggtatgta tgagagccgc tctcctgeta cteccacca ctgtcccagc agtccctcgg
1261 cacacaggca tatcagcttt cacactttcc ccatgcactc tctccacccc ccttcagggg
1321 cctctgtctc aaaggaggcc tctggaaccc aggaactctg gggttttaca gagggctggg
1381 gtgtggaagg gcaagctgca ccaaagacgg tggatatagc caccgcccc ccgcccgtgc
1441 ctgactcatg cttggccaat tagttcagcc tcagaccatg gcacttttag ggggtctcta
1501 ctcctcccat aacagctgca gggggacccc agtgccaaat tctctccca cagggccctc
1561 gccttcagct ggtcgttgct gcgattcctg tgccttatgt aactgcctt ccttccttgc
1621 ccctaggaaa aaggctgcat ctttatatgt tacattcata taaactttgt aactttttgg

```

Predicted open reading frame:

```

MAGYLPKGYAPSPPPYPVTPGYPEPALHPGPGQAPVPAQVPAPAPGFALFPSPGPVAL
GSAAPFLPLPGVPSGLFLVQIDQILIHQKAERVETFLGWETCNRYELRSGAGPLGQAA
RESNCCARLCCGARRPLRVRLADPGDREVLRLRLPLHCGCSCCPCGLQEMRVQAPPGTTI
GHVLQTHWFFLPKFSIQADRDQTVLRVVGPCWTCGCGTDTHFEVKTRDESRSVGRISKW
GGLVREALTDADDGLQFPLDLVRVKAVLLGATFLIDYMFEEKRGAGPSAITS

```

FIGURE 3

Human PLSCR4

```

1 gtttaataac tgaaaaaacc tctccgtctc cctccctctc ctcctttctc ttcctttctc
2 tctgccagta caactagacc cggcgtctcg cgtcccccgt gccccagcatt ctccgggggca
121 ggcggattaa ttggaattct tcaaaatgct aggtgtggta cccacagacc ctgaacagcc
181 tgcagggtgaa atggaataac aaacaaaacc accagatcca aggcctgatg ctctctctga
241 atacagttct cattttttac caggaccccc tggaaacagct gtccctccac ctactggcta
301 cccaggaggc ttgcctatgg gatactacag tccacagcaa cccagtaacc tccctttgta
361 ccagccagtt ggtgggtacc atcctgtccg gtatcagcct ggcaaatatc ctatgccaaa
421 tcagttctgt ccaataacat ggaatgccag gccaaactcct atggcaaacct ggcctctggg
481 tctgggaatac ttagttcagt tggacaacat acatgttctt cagcattttg agcctctgga
541 aatgatgaca tgttttgaaa ctataaatag atatgatatt aaaaaaacct cagaccagat
601 ggtttacgtt gtaaccgaag acacagatga ctttaccagg aatgcctatc ggacactaag
661 gccctctgtc ctccgggtca ctgatgtgat gggccgagaa atcatgacaa tgcagagacc
721 ctccagatgc acctgctgtt gcttctgttg cccctctgcc agacaagagc tggagggtca
781 gtgtctctct ggtgtcacca ttggctttgt tggcgaacat tggaaacctgt gcagggcggt
841 gtacagatc caaaatgaga agaagaaaaa tggatgaga gttcgtgggc catgctcaac
901 ctatggctgt ggttcagatt ctgtttttga ggtcaaatcc ctgtatggca tatccaacat
961 cggcagttatt atccggaagt ggaatggttt gttatcagca ctggcagatg ctgaccattt
1021 tgcactctac ttcccactag acctggatgt gaagatgaaa gccatgatt ttggagcttg
1081 ctctctcatt gactctatgt attttgaag atctccacca caacgttcaa gatagagaga
1141 cacagcaagc caataacat ggttaatttt gaaaaatgga aagattggat tgggctaca
1201 gtcagcactc agttattttg aagtgtattt ctttgccttg tagagtatat ttattgggtg
1261 ttaactttga cagctgagag tgggcttgca agaacacaa cttaaagtg ttttcaattg
1321 agtatctctc tagtagaata ggaatttcac ctgaaagct gtgactcatt aaccagataa
1381 acatatacaa aatgaagctta aaacactata aacatgagat aagggaataat gaatccagag
1441 ttctctatatt agtaggtagt gaaacataaa ggcctttttg agcagacttt gttggcataa
1501 aataaacctg ctctctatcc taaccttttc ctacctttcc tctccgtcaa catgtcctca
1561 tactgaagac aaactgtgtt caatgatagt cttcattttt aaaaaaaaaa aggcaggcag
1621 acagaaaata tgaatgtttc ttgcactaag aaggtactac ttgtacacat atatcaaaa
1681 ctcatctctc aaagtgtttg aaggtttcaa tgggaaattt gattttatta caaaaataaa
1741 cattttttta tgtttaaagt tatatatccc atgctgtgtt tctcattcac tggcatggat
1801 gatcaggagc tgcctatata tgaaggcaga atcagactat caggaaagga gctggccagg
1861 gccacagcca gtcaagatct ctgagcaact tagagacatt ggtgtcatta tatgaagctt
1921 gcattttaata ctttatataca taatacattt gtacatttaa tcttaacgt ttcttggcta
1981 cagatgcctt atatatataa taagttgcca gatctctaag attgcctagt acacctttgt
2041 atctcatctg atgtgatacc cagaagagat catgtttttt tgtttttgtt ttgtttttt
2101 tcaagaagat cctcgtgcat ccactgctgt tctctatggt tctcatggat aagaacttga gttatgttt
2161 taaatttgaa aatatgacat ttatgtagc actatataaa aagtgaagc gacaaattcc
2221 accgctgctt aatactgctt tgcctctttt tattgacatc atagatacat atgatctcac
2281 acagagtaat aataataaaa cacagtaaac attcatttcc tctatggtct acagcatgcc
2341 agtaaaataat atgtaggacc aataataaat tatcaattac acattttttg gtttaactaat
2401 taaaagctgc atgtataagt gagtacaacc taattaaact tctctgtgtt cactttagtt
2461 ttctacctgc atattggaact catttttttt tttaacacag cagtatgta gaatgggatg
2521 tattctctct ctgctgctta ttaataaag aaagcctgag tgttcttga tggggtttat
2581 ctgagatgag ggtcttagcc ttgaaatga aagbtgcttt ttgttttaat gttttttaa
2641 tatattccat ttttcagggt aaatttgttt ttctgagttt ctccgtaagc tcaattttac
2701 atgctgtcac tagctttttt tttaaaaaa agtaaaagtt gctgctttct aaaaatttaa
2761 ttgctttata tttgaaagtg ccattgcaat cgtaaagtga catgtattt cctataatga
2821 tgtctgatat ttaaatagga aactcagaca acaattatca gaaggttata gcatataaac
2881 tttttttttt taaacttgct agatccctgt atctcaaaac cgtctgctac ataataaata
2941 tatctatata tatttagcat aagacgtgat atttttaatt tcttttttaa aaaaattat
3001 ttgtctctta gagttaaaat ttcttttata taatatgttc atgttttcaa gttttaaata
3061 aattcacatg atttctatgt ttcttaatga tattttgttg tgaataatg atcggaatga
3121 ttataaaaaa aattctctgc aatttgtgct ttaatgctt tctgattct ttatgcctt
3181 taaataaata tacaatgggt aatagt

```

FIGURE 4A

Predicted open reading frame:

MSGVVPTAPEQPAGEMENQTKPPDPRPDAPPEYSSHFLPGPPGTAVPPPTGYPGGLPMGY
YSPQQPSTFPLYQFVGGIHPVRYQPGKYMPNQSVPI TWMPGPTPMANCPPGLEYLVLQD
NIHVLQHFEPLEMMTCFETNNRYDIKNSDOMVYVVTEDTDDFTRNAYRTL RPFVLRVTD
CMGREIMTMQRPFRCTCCCFCCPSARQELEVCPPGV TIGFVAEHWNL CRAVYSIQNEKK
ENVMRVRGPCSTYCGSDSVFEVKS L DGISNIGS IIRKWNGLLSAMADADHFDIHFPLDL
DVKMKAMIFGACFLIDFMYFERSPPQRSR

FIGURE 4B

Mouse PLSCR1

```

1 gggcagagct cgcgtcattc agagtgagtc cctctgcga gggaaagccg ggctactgca
61 gcgccaccag caagggattg ggactcacgg acttcagAAC agaaggagcc tcagaaactg
121 tttaaatcat ggaaaaccac agcaagcaaa ctgagggtcc ccaccgggga acatatatgc
181 cagctgggta tccccctccg tatccaccag cagctttcca aggaccttca gaccatgctg
241 cttcccccat accccaggct ggctaccaag ggctccggg ccctatcca gggccccaac
301 ctggctaccc agtcccacca ggagggttat cagggtgggg ccttagtggc ttctctgtcc
361 aaaaatcagcc agcatataat catccagggt ggctggggg gaccccatgg atgccagccc
421 cccctctccc actgaactgt ccaccggggc tggataactt agctcagatt gatcagcttc
481 tggttcatca gcaaatagg cttctggaag tcttaacagg ctttgaacaa aataacaaat
541 atgaaatcaa gaacagcctc gggcagagag tttactttgc agtggaagat actgactgct
601 gtaccocgaaa ctgctgtggg gcgtctagac ctttcacctt gaggatccgt gataactctg
661 gccgagaagt catgactctg gagagacctc ctggggatacc agtaggttat gtgactcaga
721 gccctcagga gatagaaatc caggctcttc ctggggatacc agtaggttat gtgactcaga
781 cctggcacc c atgtctgcc aagttcactc tccaaaatga gaagaagcag gatgtcctga
841 aagtagttgg tccgtgtggt gtgtgtagct gctgttccga cattgacttt gagctcaaat
901 ctctagatga agaatacagta gtgtggcaaaa tttctaagca gtggtctggt tttgtgagag
961 aggccttcac ggaatcgagac aattttggga tccagttccc gctagacctg gatgtgaaga
1021 tgaagctgt gatgcttggg gctgttttcc tcatagattt catgtttttt gaaagaactg
1081 gaaacgagga gcaaatatca ggagcatggc agtaactccc ttagagttct tgaggtttaa
1141 ggaacgacaa tttatggacc ctgaatggaa actgaggaat cacaaggcac acaccgtggc
1201 ttcttttctc ttaactgaaat aactttctat caactcactc gtgatgccct ggtgcctctg
1261 tgtacaatta tgcctccaaa ttagagttta ttttttagaa ttctgtcatg tattgttttt
1321 tatacatctc taagggtttc actgtgaatt tgggaaaaaa gttatgtgaa tttatataca
1381 tagaattgat cttctctatg aaaaatacat ttgactttgt cttcgttttc ccatttttgt
1441 ggaaacgtaa atgtctattgt aatttaatat aaaattacac attaaatata attatgattt
1501 ac

```

Predicted open reading frame:

```

MENHSKQTEAPHPGTYMPAGYPPYPYPPAAFCQGSDDHAAYPIPOAGYQGGPGPYGPQPGY
PVPPCGYAGGGPSGGFVQNGQPAYNHPGGPGGTWMPAPPPLNCPGLLEYLAQIDQLLVH
QQIBLLEVLVGFETNNKYBINKSLGQRVYFAVEDTDCCTRNCCGASRFFTLRLDNLGRE
VMTLERPLRCSSCCFPCLQLBIEIQAPPVGPVGYVTQTWHPCLPKFTLQNEKKQDVLKVV
GPCVVCSCSDIDFELKSLDEESVVGKISKQWSGFVREAFPTDADNFGIQFFLDLDVKMKA
VMLGACFLIDMFERTGNEBQRSGAWQ

```

FIGURE 5

Mouse PLSCR2

```

1 tetaaagact caggaaacaa aacctaaatt gcctcaaagt tcaggtgctt ttctccctg
61 accttagtct agtggagtag tgcagcacct atgcctttct gagaggagtc tggagagctg
121 agtcgctgct ggtgctagga ttctaggaat tcgcctcact tggagctgca tgagaaaaga
181 aagcgttgca aatggaggct cctcgctcag gaacataact gccagctggg tatgccctc
241 agtatcctcc agcagcagtc caaggacctc cagagcatatc tggacgcccc acattccaga
301 ctaactacca agtccccag tctggttate caggacactca ggctagctac acagtctcaa
361 catctggaca tgaaggttat gctgctacac ggcttccat tcaaaaataat cagactatag
421 tccttgcaaa cactcagtg atgccagcac caccacctat tctgaactgc ccacctgggc
481 tagaataact aaatcagata gatcagcttc tgattcatca gcaagtggaa ctctcagaag
541 tcctaacagg ctttgaaaca aataacaaat ttgaaatcaa gaacagcctc gggcagatgg
601 tttatgttgc agtgggaagat actgactgct gtactcgaaa ttgctgtgaa gcgtctagac
661 ctttcacctt aagaatcctg gatcatctgg gccaaagaat catgactctg gaggcagctc
721 tgagatcgaa tagctgctgc ttcccctgct gcctccagga gatagaaatc caggctctcc
781 cgggggtgct aataggttat gtgactcaga cctggcacc atgtctgcca aagctcactc
841 ttcagaaaga caagaggag aatgttctaa aagttagtgg tccatgtgtt gcactgacct
901 gctgttcaga tattgacttt gagatcaagt ctcttgatga agtgactaga attggttaaga
961 tcaccaagca gtggtctggt tgtgtgaaag aggccttcac ggattcggaat aactttggga
1021 tccaattccc gctagacctg gaggtgaaga gaggtagaaga gacgcttggt gcttgcctcc
1081 tcatagatta catgtttttt gaaggctgtg agtaggaaca gaaatccgac ctgcagtagg
1141 aatcaatgaa agaggacaga gaagatctga agtctacaca aggagatcat atgattgaga
1201 gacctggggc tttttgattt cttcattgaa atttctcaga atcaagctgt tatcatgaa
1261 gcatagtag taacattttg gttttcaaat ggtagtattt cttttacatt attggaatag
1321 acctggataa ttatctttat acacttctaa aaatatgcac caaattcaag ttaaaaaaaa
1381 aaagacgaag agaagtgat gttttaaaat aaaaacatttt atggaaaagt aagttaactc
1441 ataactcggg atttattttt catcttttgt tcaattttaa ccttgtagt gctgatttta
1501 ttataaaatt gtactttact atcaaaccta gttagtttat tctctacaga aatcctcta
1561 ttattttgaa attacatatt ttgaaaagct ttttaaaaga tactattgcc tgggaaattc
1621 ta

```

Predicted open reading frame:

```

MEAPRSGLTYPAGYAPQYPPAAVQGPPEHTGRPTFTQNYQVPQSGYPGFQASYTIVTSGH
EGYAATRLPIQNQTIVLANTQWMPAPPPILNCPGPLEYLNQIDQLLIHQVLELVLTG
FETNNKFEIKNSLGOMVYVAVEDTDCCTRNCCASRPFTLRILDHLGQEVMTLERPLRCS
SCCFPCCLQETELQAPPGPVIGYVQTWHPLCLPLTLQNDKRENVLKVVGPCVACTCCSD
IDFEIKSLDEVTRIGKITKQWGGCVKEAFTSDNFGIQFPLDLEVMKAVTLGACFLIDY
MFFEGCE

```

FIGURE 6

Mouse PLSCR3

```

1  ccccgagtct taggtgccgc cctagagacc ctgggcccct actggggcgca gctacctctt
61 cgccctctgcc tgctcgtctt tgtttctgtg tctgtctagc tgttcccag ctgtctccac
121 tccagaacta agtctcccct acgcccaaa cccaagactc ccctcctgat tcccattggca
181 ggctacttgc ccccctaaag ctatgcccct tccccccac ctccctaccc cgtgccatct
241 ggggtatccag agccgggtggt tctgcatcct ggaccgggac aagctccagt gccaccacag
301 gtgcctgccc ctgctcccgg cttegetctc tccccctgc caggcccaagt ggtccagggt
361 cctcctgctc ctctcgtgcc attgccagggt gtccctcctg gctcgaatt cctagtgcag
421 attgatcaaa tcttgattca tcagaaggct gaacgagtgg aaacgttctc aggcctggag
481 acctgtaata tgtatgaact tgcctcggga accggacagc aactgggtca ggcagctgaa
541 gagagcaact gttgtgccg cctgtgctgt ggtgcccgcc gaccttctg aatccgccta
601 gcggaccctg gggaccgcga ggtgctccgg ctctccgcc cacttcatgt tggctgcagc
661 tgctgcccct gtggtcttca ggagatggaa gtccaggctc cacttggcac caccattggc
721 catgtgtgac agacctggca tccctctctt cctaagtttt ccactcctgga tgctgatcgc
781 caacctgttc taccagttgt agggccttgc tggacttgtg cgtgtggtac agacaccaac
841 tttgaggtga agactaagga tgaatcgga agtgtggggc gcactagcaa gcagtgggga
901 gggctgctcc gagaagccct cacagatgcc gactacttgc gactccttgc cccagtcgat
961 ctatagtgtga aagtgaagge cgtactgctg ggagccacgt tctcatcga ttatatgttc
1021 ttcgagaaga gaggaggcgc aggaccctct gccatcacca gttagaagcc acctcaggat
1081 gaggagaccc atctccttga ccagaattta agatggtcag ctgccctgga cgttccctcc
1141 tgaagcaacc ctcttcttga tatacactgc ggcggaccga cgagggtggc cgagtgggtg
1201 ggagcgttgg tgtcccatcc ctctcctgct tctcctgtgg cctgcagaa gagcatgtat
1261 gagacctgtt ctctctctgt ttcacatct ccaggcagtg cctgtgcaca cattagcttt
1321 taaacttctc tgcacactcc ttcacgctt cctctggggc ctctgcatag gcaggggcat
1381 ctggaatcct ggactcaagt ttaccaccag ggcttgtggg taaaaggcaa gcagtaccaa
1441 agatggcaga caccacctt cccttatggc actttagcca attagtttag cttccgattg
1501 tggcactctg aggggatcct tgctcctcca ctaatagctg tagcgggtgg gccccagtg
1561 caactcccta agccctggg cctgcgggtg gctttctgca gctcctgtg ccttatttaa
1621 ccgttaaaccc ctctcttccc ctactgtagg aaggaggctg tgtcttggta tgttgtactc
1681 atataaacct tgaacctttt taaacagt

```

Predicted open reading frame:

```

MAGYLPPKGYAPSPPPYPVPSGYPEPVALHPGQGQAPVPTQVPAPAPGFALFPSPGPVA
PGPPAPFPVPLPGVPGLFLVQIDQLIHQKAERVETFLGWETCNMYELRSGTQQLGQA
AEESSNCCARLCCGARRPFRIRLADPGDREVLRLLRPLHCGCCSCPCGLQEMEVQAPPGET
IGHVLQTHWFLPKFSLILDADRPVLRVVGPCWTCGCGTDITNFEVTKDESRSVGRISKQ
WGGLLREALTDADDFLQFPVDLDVKVKAVLLGATFLIDYMFKEKRGAGGSAITS

```

FIGURE 7

Mouse PLSCR4 (partial sequence)

```

1  cagatgactt  taccaggaat  gctatcgga  acctacgacc  ctttgtgctc  cgggtcactg
61  actgctctgg  ccgagagatc  atgaccatgc  agaggccttt  ccgatgcacc  tgctgttgc
121  tctgctgccc  ctgtgcaaga  caagagctgg  aagtgcgaatg  tctcctcggg  gtcaccattg
181  gctttgttgc  agaacaactg  aacttgtgca  gagcctctta  tagcatccag  aatgagaaga
241  aagagagtat  gatgagagtg  aggggtccgt  gtgcaaccta  cggctgtggc  tccgattctg
301  tttttgagat  caactctcta  gatggcgtgt  ctaacatcgg  cagtattata  aggaagtggg
361  atggcttttt  atcaacgatg  gtaaatgctg  accactttga  gattcgcttc  cctttggccc
421  tggatgtgaa  gatgaaagca  atgattttcg  gctcttgctt  cctcattgac  ttcattgact
481  ttgaacgacc  tctcctcgga  cgtatgtcaa  gatagaggat  caaacaatc  atcaattgaa
541  aaaaaatgag  taatttgcac  tcagcttatg  tatagctttc  tgtttattag  acatatattt
601  ctctggcttg  acatgtgtct  cagtttgagta  ttagctttct  tgaggcacta  ggttattctg
661  aaatctctac  tccattagcc  aaataaacat  atacagatag  aagcattaca  gctataggca
721  tgtgagctat  gggaaagtga  aacccttggt  tctcaacttg  acaggttcac  acacatcttc
781  tgtncctgct  cctttcttct  tcattaggaa  aaacttgatt  ccaggtgaga  ggactgtctc
841  tcttagtctt  catctttagg  agccaaaag  tgcacagaaa  taatgtgctt  taatgtgctc
901  agaaaaatgt  ttgtgtgtgt  gtgtgtgtct  gtgtgcacca  gaacatcatt  ctgcaacatg
961  catacaagtt  cctaaagtgc  tcagtgggga  attttatttt  attacaaaat  aaaatgtatt
1021  ctctttatag  gcagtttata  ttttctatgc  atatttcttc  atacctcaa  ctgggcaatg
1081  tggagctacc  tgtatatgaa  ggtaggatga  ggttcacagg  gaaagtgtat  cagagctaca
1141  gccaaataag  tctctggcat  cttacacatg  ttgtgtgttt  gcttactcag  caaaattagt
1201  gtggactctc  gtattttacac  ttgcttttta  tctaactggt  ttaactgatg  tctggaattt
1261  cctattgtat  ttttgtatct  cacttgctat  tttttttttt  ttcgaaatcc  atctaatgac
1321  caggatgtcc  ttgtgaccaa  cagtttatta  aagctgaata  tgtaaatcct  gtcattgctt
1381  taatactggt  gacgctttgc  gtggtaaaca  actcattata  tgcaatcagt  aagaagacac
1441  agtaaatttg  ttgcttccat  attttctcca  gattatcaat  gaggactatg  gaagaccagg
1501  agacttgtac  taaggacagt  gtatgtatga  atcactgatt  taattaatga  gtttcatgcc
1561  ttgtctgtcg  acctacacat  agatgtgtga  tgggtttttt  ttttaagtga  tatattctct
1621  tanagtttat  ttaaaaagga  ttaagtgtct  ttgggttgaa  ttaactctgag  agaagagatg
1681  tagccaacag  gcttttttga  aatagcaggn  gcttcagctt  taattatact  aatgttttta
1741  tgagaaagat  tgttctcctc  agttatctac  ttgctgctgt  tgagttttta  tttaaaaaaa
1801  atcatgagtt  cttgataaaa  aactacctta  aatgttaaaa  tgtaacctta  attttaacca
1861  gacatacatg  atttctgtat  gacatcttgt  attttgcata  taacacagat  aaacagaatt
1921  ctgagagctc  acgataaagc  ctgctcttgg  cccaccacca  ccccatctta  gcactttgca
1981  tcacgttgat  agtgaagatc  agaatgcttc  atatttctgt  gctccatact  tcagtgttca
2041  tgatgctaat  acttctctaa  cagcagaatt  ctttaacata  agtcatgcaa  tttctgtaac
2101  gcagtagaat  ttcactgtat  caagacagcc  tacttaacta  aaaaataaac  aacttgtttt
2161  ct

```

Predicted open reading frame (partial, 5' end missing):

```

DDFTRNAYRNLRFVLRVLDCLGREIMTMQRFFRCTCCCFCCPCARQELVQCPGGVTIG
FVAEHWNLCRASYSIQNEKKESMMRVRCATYGCSDSVFEINSLDGVSNIGSIIRKWN
GFLSTMVNADHFEIRFPLALDVKMKAMIFGSCFLIDFMYFERPPPRMRS

```

FIGURE 8

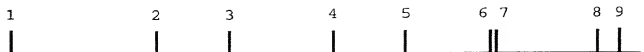
PLSCR1	1	.....MD	KQNSQMNASH	PETNLPVGY	PQYPTAFQG	PPGYSGYGP
PLSCR2	1	.....			
PLSCR3	1	.....	.....MAGYL	PPKGYAPSEP	PPYPTV..PG	YPPEPALHPG.
PLSCR4	1	MSGVVPTAPE	QFAGEMENQT	KPPDPFRDAP	PEYSSHFLEG	PPGTAVPPPT
PLSCR1	43	QVSYPPPPAG	HSGPGPAGPF	VPN.....QY	VYNQP.VYNO	PVGAAGVFWM
PLSCR2	1	.....			
PLSCR3	28	..PGQAPVPA	QVPAPAPGFA	LF.....	....PSPGFV	ALGSAA..PFL
PLSCR4	51	GYPGGGLPMGY	YSPQQPSTFE	LYQFVGGIHP	VRYQPGKYEM	PNQSVPIITWM
PLSCR1	87	PAPQPPPLNCP	PGLEYLSQID	QILIHQQIEL	LEVLTGFETN	NKYEIKNSFG
PLSCR2	2	PAPPPPLNCP	PGLEYLSQID	MILIHQQIEL	LEVLFSESS	NMYEIKNSFG
PLSCR3	64	PLP....GVP	SGLEFLVQID	QILIHQAER	VETFLGWETC	NRVELRSGAG
PLSCR4	101	PGPTFMANCP	PGLEYLVQLD	NIHVLOHFEP	LEMMTCFETN	NRVDIKQNSD
PLSCR1	137	QRVYFAAEDT	DOCTRNC CGP	SRPFTLRID	NMGQEVITLE	RPLRCCSCC.
PLSCR2	52	QRIYFAAEDT	NFCIRNCCGR	SRPFTLRITD	NVGREVITLE	RPLRCNCCC.
PLSCR3	114	QPLGQAAEES	NCCARLCCGA	RRPLRVRLAD	PGDREVLRL	RPLHCGCSC.
PLSCR4	151	QMVVVTEDT	DDFTRNAYRT	LRPFVLRVTD	CMGREIMTMQ	RPFRCTCCCC
PLSCR1	185	.CPCCLOEIE	IQAPPGVPIG	YVIQTWHPC	PKFTIQNEKR	EDVLKISGPC
PLSCR2	100	.CPCCLOEIE	IQAPPGVFVG	YVTQTHWPC	TKFTIKNQKR	EDVLKISGPC
PLSCR3	162	.CPGLOEME	VQAPP GTTG	HVLQTHWPF	PKESI QDADR	QTVLVRVVGPC
PLSCR4	201	CCPSARQELE	VQCPPGVTIG	FVAEHWNLCR	AVISIQNEKK	ENVMVRVGPC
PLSCR1	235	VVCSCCGDVD	FEIKSLDEQC	VVGKISKHWT	GILREAFDA	DNFQIQFFLD
PLSCR2	150	IVCSCIAGVD	FEITSLDEQI	VVGRISKHWS	GFLREAFDA	DNFGIQFFRD
PLSCR3	212	WTCGCGTDTN	FEVKTRDES	SVGRISKQWG	GLVREALDA	DDFGLQFFLD
PLSCR4	251	STYGCGSDSV	FEVKS LDG	NI GSIIRKWN	GLL.SAMADA	DHFDHFFLD
PLSCR1	285	LDVMMAMMI	GACFLIDMF	FESTGSQEQK	SGWV	318
PLSCR2	200	LDVMMAMMI	GACFLIDYME	FERTR.....		224
PLSCR3	262	LDVMMAMMI	GATFLIDYME	FEKRGSGAPS	AIT	295
PLSCR4	301	LDVMMAMMI	GACFLIDFMY	FERSEPORSR		330

FIGURE 9

MU PLSCR1 328 aa; HU PLSCR1 318 aa

	10	20	30	40	50	60
Mouse	MENHSKQTEAPHEGTYMPAGYPPYP	PAAAFQGPSDHAAYPI	QAGYQGPPGPYPGPQPGY			
Human	MDKQNSQMNASHPETNLFVGYPPQY	PPTAFQGP	-----F--	GYSG--	YPGPQVS	
	10	20	30	40		
	70	80	90	100	110	
Mouse	PVPPGGYAGGGPSGFFVQNPAYNHG	-----GPGGT	PWMPAPPPPLNCP	PGLEYLAQID		
Human	PPPPAGHS	GPAGFFV	PNQPVYNQ	PVGAAGVP	WMPAPQPP	PLNCP
	50	60	70	80	90	100
	120	130	140	150	160	170
Mouse	QLLVHQQIELLEVL	TGFETNNKYEIK	NSLGQRVYFAVED	TDCTRNC	CGASRPFTLRILD	
Human	QILIHQQIELLEVL	TGFETNNKYEIK	NSFGQRVYFAED	TDCTRNC	CGSRPFTLRIRD	
	110	120	130	140	150	160
	180	190	200	210	220	230
Mouse	NLGREVM	TLERPLRCS	SCCFPCCLQEIEI	QAPP	GVGVY	QTQWHPCLPK
Human	NMQQEV	ITLERPLRCS	CCCCPCCLQEIEI	QAPP	GVPIGYI	QTQWHPCLPK
	170	180	190	200	210	220
	240	250	260	270	280	290
Mouse	VLKVVGP	CVVCS	CCSIDIFELKSL	DEESVVGKISKQ	WGSFVREAF	TDADNFGIQFFLDLD
Human	VLKISGP	CVVCS	CCGDVFEIKSL	DEQCVVGKISKH	WTGILREAF	TDADNFGIQFFLDLD
	230	240	250	260	270	280
	300	310	320			
Mouse	VKN	AVMLGACFLID	FMFFENTQNEEQ	RS	GA	WQ
Human	VKN	AVMIGACFLID	FMFFESTQ	SEQ	KS	GVW
	290	300	310			

FIGURE 10



cgagcgccagcgcggaacccgggaaaaggaaacccgtgtgtgtacgtaagattcaggaaa
 cgaaccaggagccgcggtgttgccgcaaaaggttactccagaccctttccggctgac
 ttctgagaaggttgccgagcagctgtgcccagacagcttagaggcgagagaaggaagcca
 tcgctctggccggctctctggaccttctctcgctcgaggcggaacagcgcgagccag

↓ Exon 2

↓ Exon 3

agaactgttttaatatcatggacaaaactcacagatgaatgcttctcaccggaaaca
 M D K Q N S Q M N A S H P E T

↓ Exon 4

aacttgcaggttgggtatctctcctcagtatccaccgacagcattccaaggacctccagga
 N L P V G Y P P Q Y P P T A F Q G P P G

tatagtggctaccctgggccccaggctacgctaccacccccaccggccattcaggt
 Y S G Y P P Q V S Y P P P A G G H S T

cctggccagctggcttctctgtcccaaatcagccagtgataatcagccagatatataat
 P G P A G F P V P N Q P V Y N Q P V Y N

cagccagttggagctgcaggggtaccatggatgccagcgccacagcctccattaaactgt
 Q P V G A A G G V P W M P A G Q P P L A N C

↓ Exon 5

ccacctggattagaatatattaagtcagatagatcagatactgattcatcagcaaattgaa
 P P G L E Y L S Q I D Q I L I H Q Q I E

↓ Exon 6

cttctggaagtttaacaggttttgaaactaataacaaatatgaaattaagaacagcttt
 L L E V L T G F E T N N K Y E I K N S F

ggacagaggggttacttttcagcggaagatactgtgctgtaccgaaattgctgtggg
 G Q R V Y F A A E D T D C C T R N C C G

ccatctagaccttttaccttgaggattattgataatatgggtcaagaagtcataactctg
 P S R P F T L L R I I D N M G Q E V I T L

↓ Exon 7

gagagaccactaagatgttagcagctgtgtgtgtccctgctgccttcaggagatagaatc
 E R P L R C S S C C C P C C L Q E I E I

caagctctctctgggtacaaataggttatgttattcagacttggcaccatgtctacca
 Q A P P G V P I G Y V I Q T W H P C L P

aagtttacaattcaaaatgagaaaaagagaggatgtactaaaaataagtggtccatgtgtt
 K F T I Q N E K R E D V L K I S G P C V

↓ Exon 8

gtgtgcagctgtgtggagatgttgattttgagattaaatctcttgatgaacagtgctgv
 V C S C C G G D V D F E I K S L L E Q C G

gttggcaaaatttccagcactggactggaattttgagagaggcatttcagacgctgat
 V G K I S K H W T G I L R E A F T D A D

aactttggaattccagttcccttttagaccttgatgtttaaataagaaagctgtaattggtt
 N F G I Q F P L D L D V K M K A V M I G G

↓ Exon 9

gcctgtttcctcattgacttcattgttttttgaagcactggcagccaggaaacaaaaatca
 A C F L I D F M F F E S T G S Q E Q K S

ggagtgtggttag
 G V W -

FIGURE 11

-150	AGTTTCCTCTCCTTAACCACCGACAAACGTCTCTGGAGT	<u>TCTCTCCAATG</u>	-101		
		CCAAT box			
-100	AGCAAGAAAGCAAGTCGGGGGT	<u>TAGGGGAGGGGCCT</u>	<u>CACACCAGGGGGTGG</u>	-51	
		GC box	GC box		
-50	<u>GCGCAGTCCCTCCTC</u>	<u>CAGCTCCTTCACCCTCCAGTAGT</u>	<u>CTCGTGGGTCCC</u>	-1	
		AP4	USF		
+1	CGAGCGCC	<u>CAGCGCGGGA</u>	ACCGGAAAAG	<u>GAAACCGTGTGTGTACGTAAG</u>	+50
	AP4	ETS1	ISRE; IRF		
+51	ATTCAGGAAA				

FIGURE 12

HuPLSCR1	1	-----MDXQNSQWASHPETNLEVGYPPOXPPTA W QGPFGSYG CE
HuPLSCR2	1	-----
HuPLSCR3	1	-----NAGYLPKPKYAPSPPP Y EVTPGCP Y EP
HuPLSCR4	1	MSGVVTAPQAPAGEMENQTXPPDR ED APPE W SSHFLGPPGTAVP ET
HuPLSCR1	43	QVSYP EP AGHSGGPGAG FF VNPQVYNQ Y NPV -----CAA GMP W
HuPLSCR2	1	-----
HuPLSCR3	28	-----A LE PGGQ MP VPAQVPA PA PGFA LE FPSP -----GP VAG SA
HuPLSCR4	51	GYPG LE MG Y SPQ Q ST EP YQ EV GIH EV RYQ FG KYPM PN QSV PT W TM
HuPLSCR1	87	PAP OP PLNCP PG LEV IS QID LI HOQ LE LEV LT GT FT NN W YPIK NS FG
HuPLSCR2	2	PAP PL NCP PG LEV IS QID LI HOQ LE LEV LT SP SS NN W YPIK NS FG
HuPLSCR3	64	AP FL EP GV PG SG LEV LT QID LI HOQ LE LEV LT GT FT NN W YPIK NS FG
HuPLSCR4	101	EG PT MANCP PG LEV IS QID LI HOQ LE LEV LT GT FT NN W YPIK NS FG
HuPLSCR1	137	ORVY FA AED TD CC TR NCCG PS RP FT ARI LD NNGQ EV TLER PA RC SS SC -----
HuPLSCR2	52	OR Y FAAED TD CC TR NCCG PS RP FT ARI LD NNGQ EV TLER PA RC SS SC -----
HuPLSCR3	114	OP LG AAE SN CC AR CC GA RP RV RLAD PD QD RE VL LD RP LE CC GS -----
HuPLSCR4	151	QMV V V TE DD DF TR AY RT LE PE VL AV TD CG RE IN TM Q RP FC TC CC CF
HuPLSCR1	185	CC PC CIQ ET ELQ AP PG VP IG VT Q WH PC LP K FT IONE K RED V IK IS GPC
HuPLSCR2	100	CC PC CIQ ET ELQ AP PG VP IG VT Q WH PC LP K FT IONE K RED V IK IS GPC
HuPLSCR3	162	CC PC CIQ ET ELQ AP PG VP IG VT Q WH PC LP K FT IONE K RED V IK IS GPC
HuPLSCR4	201	CC PS ANQ EL EV Q CP PG VT IC FA HN MLC RA V YS IONE K KEN W RV R GPC
HuPLSCR1	235	VV SC GD VD EE IK SD EQ CV VG KISK HW TC LE AP FD AD AD NE GI Q FP DD
HuPLSCR2	150	IV CS TA GV DE LT SD EQ CV VG KISK HW TC LE AP FD AD AD NE GI Q FP DD
HuPLSCR3	212	WT CG GT DN EV TE DE SR SV GR ISK Q W GH V RE AL TD AD DE CG Q FPDD
HuPLSCR4	251	ST Y CG SD SV EV KS LD GI SN IG SH IR K NN GL -S AN AD AD HE DI HF PD
HuPLSCR1	285	LD V K KA V MI G AC FL ID Y MF FE ST GS Q EQ K SG W
HuPLSCR2	200	LD V K KA V MI G AC FL ID Y MF FE ST GS Q EQ K SG W
HuPLSCR3	262	LD V R KA V MI G AC FL ID Y MF FE K R CA GP S AI TS
HuPLSCR4	300	LD V K KA MI TC AC FL ID Y MF FE RS PP OR SR -----

FIGURE 13